

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* BRAD D. RUMSEY

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Appeal No. 2006-0031  
Application 09/377,286

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MAILED

JAN 27 2006

U.S. PATENT AND TRADEMARK OFFICE  
BOARD OF PATENT APPEALS  
AND INTERFERENCES

ON BRIEF

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Before KRASS, OWENS, and RUGGIERO, *Administrative Patent Judges*.  
OWENS, *Administrative Patent Judge*.

*DECISION ON APPEAL*

This appeal is from a rejection of claims 1-6, 10-12, 14, 16 and 19. Claims 7, 8, 13, 15, 17, 18 and 20-30 stand withdrawn from consideration by the examiner.

*THE INVENTION*

The appellant claims a bonding pad system having a trace stub to counteract an attractive force applied to solder by a trace. Claims 1 and 10 are illustrative:

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1. A bond pad assembly comprising:
  - a bond pad;
  - a trace that applies an attractive force to solder placed on the pad, said trace coupled to said pad and extending away from said pad in a first direction; and
  - a trace stub to counteract the attractive force applied by the trace, said trace stub coupled to said pad and extending away from said pad in a direction other than said first direction.
10. A bonding system comprising:
  - a bond pad;
  - a trace coupled to said bond pad and extending away from said pad; and
  - an element adapted to counteract an attractive force applied by the trace to solder placed on the bond pad.

*THE REFERENCE*

Healy et al. (Healy)                    3,537,176                    Nov. 3, 1970

*THE REJECTION*

Claims 1-6, 10-12, 14, 16 and 19 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Healy.

*OPINION*

We reverse the aforementioned rejection. We need to address only the independent claims, i.e., claims 1 and 10. Claim 1 requires a trace that applies an attractive force to solder placed on a pad, and a trace stub to counteract the attractive force applied by the trace. Claim 10 requires a trace coupled to a bond pad, and an element adapted to counteract an attractive force applied by the trace to solder placed on the bond pad.

Healy discloses (col. 2, lines 18-21):

Referring now in detail to FIG. 1 and FIG. 2, a printed circuit trace **1** is supported by encasing insulation **2**. The insulation has been removed from a portion of one side of the trace to expose the interconnect pad **4**.

The examiner argues that Healy's figure 1 shows that portions of the trace and the stub (opposite the trace) are exposed (answer, page 5). As indicated by the above-cited excerpt from Healy, the removal of insulation exposes the interconnect pad. Healy does not disclose that the trace, which is to the left of the interconnect pad in figure 2, is exposed.

The examiner argues that the attractive force of the trace on the solder is created by the trace being coupled to and extending away from the pad (answer, page 5). The appellant's specification states that soft solder tends to wick along a trace, and that the

wicking is believed to be the result of capillary attraction between the solder and the trace (page 1, lines 18-22). Healy's figure 2 shows that the trace is covered with insulation (as indicated by the above-cited excerpt, the opening in the insulation is the interconnect pad, not the trace). The examiner has not explained how, if the trace is covered with insulation, there can be wicking along the trace. Nor has the examiner provided evidence or technical reasoning which shows that the mere coupling of the trace to Healy's interconnect pad can result in an attractive force being applied to solder placed on the interconnect pad.

The examiner argues that the claims do not require exposure of the trace to the solder (answer, page 6). The claims require an attractive force between a trace and solder. If exposure of the trace to the solder is required to produce that attractive force, then the claims implicitly require such exposure.

The examiner argues that one of ordinary skill in the art would have construed the void illustrated by Healy as defining an exposed pad and exposed portions of the trace and stub (answer, page 6). As indicated by the above-cited excerpt of Healy, the reference discloses that the insulation removal exposes the interconnect pad. The examiner has not provided evidence or technical reasoning which shows that one of ordinary skill in the art would have construed

that excerpt as meaning that portions of the trace and the stub also are exposed.

The examiner argues that because both the appellant (figure 2) and Healy (figure 2) show a stub opposite a trace, Healy's stub is the element required by the appellant's claim 10 (answer, page 7). As shown in the appellant's figure 2, although a portion of the trace (12) and a portion of the stub (16) are covered by a solder mask (18), another portion of the trace and the stub can contact the solder. Healy does not disclose that when the insulation is removed to expose the interconnect pad, portions of the trace and stub also are exposed. Thus, Healy does not disclose the structure in the appellant's figure 2.

For the above reasons we find that the examiner has not carried the burden of establishing a prima facie case of anticipation of the appellant's claimed invention.

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*DECISION*

The rejection of claims 1-6, 10-12, 14, 16 and 19 under  
35 U.S.C. § 102(b) over Healy is reversed.

*REVERSED*

*Errol A. Krass*)  
Errol A. Krass )  
Administrative Patent Judge )  
)  
)  
*Terry J. Owens*)  
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